

C-5.9 Analyze a chemical process to account for the weight of all reagents and solvents by following the appropriate material balance procedures.

**Revised Taxonomy Level 4      Analyze conceptual knowledge**

**Students did not address this concept in physical science**

**It is essential for students to**

- ❖ Perform a material balance (i.e. account for the weights of all reagents and solvents in a chemical process) using simulated industrial data.

**Assessment**

The revised taxonomy verb for this indicator is analyze, which means to “break material into its constituent parts and determine how the parts relate to one another and to an overall structure or purpose”. In this case, students should be able to analyze a chemical process and account for loss due to loss and error. Because the indicator is written as conceptual knowledge, assessments should require that students understand the “interrelationships among the basic elements within a larger structure that enable them to function together.” In this case, assessments must show that students understand the reasons for the difference in the expected and actual values.